the echo cancellation filter (14) is a higher-order analog low-pass filter.

12. The programmable echo cancellation filter as claimed in one of the preceding claims, wherein the signal input (13) of the echo cancellation filter (14) is connected to a signal matching circuit (11) for signal matching of the transmission signal.

13. The programmable echo cancellation filter as claimed in one of the preceding claims, wherein the signal output (15) of the echo cancellation filter (14) is connected to an automatic gain control circuit in the reception signal path of the transceiver (1).

14. The programmable echo cancellation filter as claimed in one of the preceding claims, wherein the resistors contained in the programmable resistor circuits (48, 51, 55) have weighted resistances.

15. The programmable echo cancellation filter as claimed in one of the preceding claims, wherein the gain (H_1) of the echo cancellation filter (14) is adjustable in a frequency range lying below the first cut-off frequency (f_U) and the gain (H_2) of the echo cancellation filter (14) is adjustable in a frequency range lying above a second cut-off frequency (f_O), by the control circuit (21).

16. The programmable echo cancellation filter as claimed in one of the preceding claims,
    wherein
    the two cut-off frequencies (f_U, f_O) of the echo cancellation filter (14) are adjustable by the control circuit (21).

17. A transceiver for xDSL signals, which contains a programmable echo cancellation filter (14), as claimed in claim 1.